B) AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph [0006] with the following rewritten paragraph [0006]:

[0006] The present invention relates to an improvement to a plate heat exchanger including a plurality of substantially parallel plates having high thermal conductivity, each plate having opposed surface and perimeter flanges, for providing at least one flow path for each of at least two fluids. The facing surface of the plates, that is to say, surfaces of adjacent plates that face each other, and perimeter flanges of these plates, when assembled together, define a flow path for each fluid of the at least two fluids. Upon assembly, the perimeter flanges contact one another to form a flow path boundary, or fluid boundary, and interspaces between the adjacent plates provide the channels for flow of the fluids. One plate of the at least <u>one</u> [[on]] plate of adjacent plates will have opposed surfaces in contact with two different fluids of the at least two fluids. The surfaces of this plate provide a portion of the flow path boundary for these fluids, a surface of a plate adjacent to each of the opposed surfaces also providing a portion of the flow path boundary for these fluids. Plates having two different fluids on opposed surfaces should be constructed of a material of high thermal conductivity so as to provide good thermal communication between the fluids on opposed sides of the plate in contact with the surfaces permitting excellent heat transfer. Clearly, in a stack of plates, each plate except the end plates will have fluids flowing on both sides of opposed surfaces, so that each plate in the stack should be of a material of high thermal conductivity. The end plates have air on one side. Although air strictly is a fluid, as used herein, air is not considered one of the fluids utilized for heat transfer in the heat exchanger of the present invention, as air can act as a good insulator. Thus, the end plates do not have to be of a material of high thermal conductivity and can be a lower cost material such as a carbon steel, although they typically are constructed of the same material as the other plates in the stack. The plate heat exchanger also has an inlet and an outlet for each of the at least two fluids, the inlet and outlet for each fluid being in fluid communication with each flow path for the fluids so that the fluids can enter the flow paths, traverse them and leave.[[.]] Facing surfaces of two adjacent plates of the plurality of substantial parallel plates define a flow path for a first fluid of the at least two fluids. The plate heat exchanger includes a plurality of

surface microfeatures in fluid communication with at least a portion of at least one flow path of at least one fluid, the plurality of surface microfeatures providing enhanced heat transfer between the at least two fluids passing along and over opposite surfaces of the plate, the fluids flowing through channels formed by adjacent plates. As used herein, the term surface microfeatures includes microfeatures having a preselected geometry and having a size of 0.050 inches and less. Surface microfeatures do not include ridges (including large dimples or corrugations) formed in the plates, which would be considered macrofeatures, but would include the small geometric features formed on or in the surfaces of the ridges, corrugations or dimples.

Please replace the paragraph [0009] with the following rewritten paragraph [0009]:

[0009] The present invention further relates to a method for providing an enhanced heat transfer surface for use with a plate heat exchanger including a plurality of plates, each plate having opposed surfaces and perimeter flanges, for providing at least one flow path for each of at least two fluids. The facing surfaces, that is surfaces of adjacent plates that face each other, and the perimeter flanges of adjacent plates define a flow path for each fluid. The opposed surfaces of at least [on] one plate of the pair of adjacent plates provide ~~provides~~ a common flow path boundary for two of the fluids. The plate is constructed of a material of high thermal conductivity so that heat is readily transferred across the common flow path boundary and providing thermal communication between the two fluids. The plate heat exchanger has an inlet and an outlet for each of the at least two fluids, each flow path for one of the fluids in fluid communication with an inlet an outlet for the fluid. The opposite surface of one of the two adjacent plates and a facing surface of a third plate adjacent said opposite surface from the plurality of plates provides a flow path for a second fluid of the at least two fluids flowing through the plurality of plates thereby providing thermal communication between the first and the second fluid of the at least two fluids across a plate. A plurality of surface microfeatures are provided to enhance heat transfer across the opposed surfaces of the plate between at least two fluids passing through adjacent flow paths along adjacent plates. These surface microfeatures are in the flow path of at least one of the fluids. The surface microfeatures can be placed in the

flow path in several ways. The microfeatures may be added to at least a portion of one of the flow path surface of one of the plates. This can be done, for example, by deposition. By adding a material to the surface of the plate, the surface microfeatures can be added as depressions below the surface of the plate or as raised nodes projecting above the surface. The microfeatures can also be formed into the surface of the plate such as by rolling. The microfeatures can be added to the flow path by inserting a member such as a mesh or perforated plate into the flow path itself. The mesh or perforated plate can be positioned in the flow path via spacer or the mesh or perforated plate can be bonded to the surface of one or both plates forming the flow path.

Please replace the paragraph [0046] with the following rewritten paragraph [0046]:

[0046] Referring to Fig. 16 [[15]], the mesh 48 typically includes a plurality of mutually transverse interwoven members 49, 51 to construct the mesh 48. By virtue of the interwoven arrangement of the members 49, 51 alternately passing both over and under each other, at each juncture between the members 49, 51 adjacent a position where one member, such as member 51, passes over the corresponding member 49, defines a recess 53. Depending upon the dimensions of the members 49, 51, which typically are of circular cross-section, the recesses 53 may provide additional favorable locations for bubble formation. Alternately, referring to Fig. 17, the cross-section of transverse members 49, 51 may be non-circular, such as an oval having a dimension D1 in one direction, and a dimension D2 in a direction that is perpendicular to the first dimension. The cross-section of the transverse members 49, 51 may define virtually any cross-section having a closed geometric shape and any orientation or combination of geometric shapes between the transverse members 49, 51. Further, the cross-sectional profiles of the transverse members 49, 51 may differ depending on the location of the mesh 46 within the plate heat exchanger 10 as portions of the mesh 48 may be subjected to different phases or physical states of fluid, including, liquid and or a liquid/vapor mixture to provide enhanced heat transfer to such fluids.